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GLOBAL CURRICULUM FOR THE PROFESSIONAL EDUCATION OF PROFESSIONAL ACCOUNTANTS

Report by the UNCTAD secretariat

Executive Summary

The model curriculum has been developed to provide the international community with a description of the technical subject areas that a student must master to become a professional accountant. The curriculum is part of a larger exercise to create a benchmark for the qualifications of professional accountants which, if followed, would enable them to better function in and to better serve the global economy. Thus, the curriculum is intended to serve as a guide to the technical content of the education of the professional accountant. It should be distinguished from the basic general knowledge and skills that aspirants also need to function in an interdependent economy. Lastly, it should be mentioned that the detailed curriculum is merely the starting point for a country desiring to harmonize its educational system to meet global requirements. Each country must take the curriculum and develop the corresponding syllabuses determine the time to be spent on each module, and adapt the content to national needs.

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Introduction

1. The following model curriculum has been developed by UNCTAD, together with experts from the Arab Society of Certified Accountants, the Association of Chartered Certified Accountants, the Certified General Accountants of Canada, the European Commission, FIDEF, the Institute of Chartered Accountants of Scotland, the Polish Accounting Standards Board, the International Federation of Accountants, and representatives from academia and international accounting firms acting in their personal capacities. The purpose of the detailed curriculum is to describe for the international community the technical subject areas that a student must master to become a professional accountant.

2. The detailed curriculum is only one part of a larger exercise to create a benchmark for the qualifications of professional accountants which, if followed, would enable them to better function in and to better serve the global economy. The components of such a system include:

(a) general knowledge and skills;
(b) professional (technical) education;
(c) professional examinations;
(d) practical experience;
(e) continuing professional education; and
(f) a certification scheme.

All these are described in document TD/B/COM.2/ISAR/5, entitled "Development of a global accounting curriculum and other qualification requirements".

3. The benchmark was developed for the international community as a whole in order to promote global harmonization of professional qualification requirements. Such harmonization would close the gaps in national training systems, cut the cost of mutual recognition agreements and increase transborder trade in accountancy services. While there are international standards for the provision of the service of accounting, there are no global standards for the service providers.

4. To see the curriculum in the proper prospective, it should be read with three caveats in mind. First, the detailed curriculum is intended to serve as a guide to the technical content of the education of the professional accountant. It should be distinguished from the basic general knowledge and skills that aspirants also need to function in an interdependent economy. It is not sufficient for persons aspiring to become professional accountants to possess only theoretical knowledge. Accountants must be able to apply the theoretical knowledge in practical, real-life situations by obtaining, analysing, interpreting, synthesizing, evaluating and communicating information. Many believe that these skills are best acquired during a period of general education prior to professional education. It should also be recognized that general knowledge and skills are frequently obtained concurrently during an education programme and while obtaining practical experience. In this regard the experts felt that three areas of general knowledge or basic skills should be taught throughout the curriculum. These areas are: information technology; ethics; and communication skills.

5. Second, there are a number of approaches to global accounting education. One approach is prescriptive and specifies the general and technical education professional accountants need to develop the required skills. It is best thought of as an "input" approach. Another approach is the competency-based approach, where competency is defined as the ability to perform activities within an occupation or function to the standards expected in employment. It then specifies what basic competencies professional accountants need. It looks at competencies as "outputs" or "outcomes" and then works backwards to specify the education necessary to achieve these "outcomes". Because the competency-based approach is still in its infancy, the experts have chosen the first and more traditional approach, that is, to develop a curriculum for accounting education rather than to follow a competency-based approach.

6. The choice of approach was also influenced by the fact that developing countries had asked for explicit guidance on curricula and that the latter might be more easily implemented than a competency-based system. It should be mentioned that the detailed curriculum was developed after a review of seven national curricula. It is thus based on existing international guidance and the curricula of selected professional organizations which are known for their high quality. The major headings for the various modules are grouped under classifications contained in the

International Federation of Accountants' *Prequalification Education, Assessment of Professional Competence and Experience Requirements of Professional Accountants*, International Educational Guideline (IEG) No. 9 (revised 1996) and *Information Technology in the Accounting Curriculum*, IEG No. 11 (revised 1998). UNCTAD also relied heavily on the curriculum of the Association of Chartered Certified Accountants and that of the Certified General Accountants of Canada. These were supplemented with selected items that were identified in UNCTAD's review of the curricula of other national organizations. UNCTAD wishes to extend its thanks to these professional organizations for allowing portions of their curricula to be included.

7. Third, and lastly, it should be mentioned that the detailed curriculum is merely the starting point for a country desiring to harmonize its educational system to meet global requirements. Each country must take the curriculum and develop the corresponding syllabuses, determine the time to be spent on each module, and adapt the content to national needs.

8. There are 16 modules in this curriculum. It is important to remember that these modules are not intended to each provide a separate university course. The choice of the form of academic instruction and the role of experience, personal study and other preparation in the individual learning process is a matter that is left to each country to determine as it sees fit.

Curriculum Modules

1. ORGANIZATIONAL AND BUSINESS KNOWLEDGE

1.1 Module on economics

The objective of this module is to provide candidates with an understanding of the issues, concepts and theories of microeconomics and macroeconomics. This includes the practical application of economic reasoning for solving decision and forecasting problems in business, industry and government. Candidates are expected to have an understanding of how their national economy functions, as well as how other national economies function. They should also understand how their national economy interacts with the global economy and appreciate the importance of international trade, and the effects of changes in foreign exchange rates and balances of payments in the performance of the business.

1.1.1 Economics questions, economic methods and the market

(a) Basic economic issues
(b) The function and working parts of the nation's economy
(c) Main alternative economic systems in the world
(d) Economic theories and models, including: models of relationships between economic variables at the micro and macro economic levels; the types of economic models; and mathematical and statistical techniques used in constructing economic models
(e) Property rights and money
(f) Demand and changes in demand
(g) Supply and changes in supply
(h) Price determination
(i) Communicating economic data using graphs

1.1.2 Elasticity, price regulation and consumer choice

(a) Price elasticity of demand
(b) Other elasticities of demand
(c) Elasticity of supply
(d) Price regulation
(e) Choices that consumers make
(f) Utility and utility maximization
(g) Consumer surplus
(h) Formulas and equations used in economics
(i) Forecasting: the use of objective data and subjective judgement to assess the future values of certain economic factors; and demand forecasting

1.1.3 Production and the enterprise's economic policies

(a) The enterprise's economic problems
(b) Elementary business finance
(c) Historical costs and opportunity costs as economic concepts
(d) The efficiency of enterprises
(e) The enterprise's objectives and constraints
(f) Short-term costs
(g) Long-term costs
(h) Cost minimization
(i) The enterprise's costs, technology and input prices

1.1.4 Market structures: competition and monopoly

(a) Types of market structures
(b) The concept of perfect competition
(c) Profit-maximization strategies of a competitive firm
(d) Competitive industry in the long run
(e) Why perfect competition is efficient
(f) Monopolies and why they arise
(g) The monopoly's profit-maximization price and output
(h) Price determination
(i) The efficiency of monopolies
(j) Rent-seeking and why it arises
(k) Competition and monopoly at the domestic level

1.1.5 Market structures: monopolistic competition and oligopoly

(a) The definition of monopolistic competition and oligopoly
(b) Price and output in a monopolistically competitive industry
(c) The efficiency of monopolistic competition
(d) Price/profit strategies of enterprises in an oligopolistic industry
(e) Price and output behaviour of a cartel
(f) Monopolistic competition and oligopoly at the domestic level
(g) Information as an economic resource
(h) Market failure and government action to overcome it

1.1.6 National economic issues and measures of performance

(a) Unemployment - its benefits and costs
(b) Inflation and its effects
(c) The theory of imperfect competition in the market place
(d) Gross domestic product (GDP), nominal GDP and real GDP
(e) Growth and fluctuations in the nation's economy
(f) The government's budget deficit
(g) Measuring the national price level
(h) GDP as a measure of economic performance and economic welfare

1.1.7 Expenditure decisions

(a) Aggregate expenditure and its components
(b) Consumption and saving decisions
(c) The role of investments in the national economy
(d) Net exports
(e) Aggregate planned expenditure and real GDP
(f) Equilibrium expenditure
(g) The concept of the multiplier effect
(h) Fiscal multipliers

1.1.8 Money, banking and interest rates

(a) The nature of money
(b) Financial intermediaries
(c) Money creation
(d) The national bank and its influence on the money supply
(e) Demand for money
(f) How interest rates are determined
(g) The national bank's influence on aggregate national expenditures
(h) Fiscal policies, interest rates and investment

1.1.9 Unemployment and inflation

(a) Aggregate demand and what determines it
(b) Aggregate supply and what determines it
(c) Macroeconomic equilibrium
(d) Wages and employment
(e) Unemployment
(f) Expectations 1

(g) Expectations and macroeconomic equilibrium
(h) Inflation

1.1.10 The global environment

(a) Comparative advantages and gains from trade
(b) The theory and practice of free trade and problems of protectionism
(c) Foreign exchange controls and its effects and risks
(d) Trade restrictions
(e) Economic relations between developed and developing nations; problems of debt and development
(f) Trade facilities offered by developed nations to the developing nations and the impact of most favored nation (MFN) status
(g) Single market agreements, such as the European Union
(h) Regional trade agreements, such as the North American Free Trade Agreement (NAFTA), the Southern Common Market (MERCOSUR) and the Economic Community of West African States (ECOWAS)
(i) International trade agreements such as the General Agreement on Trade in Services (GATS) and the World Trade Organization (WTO)
(j) International institutions such as the World Bank and the International Monetary Fund (IMF) and their role in the world economy
(k) Balance-of-payments accounts and implications of policies to achieve equilibrium
(l) Financing international payments deficits
(m) Exchange rate determination and alternative exchange rate regimes including the European Exchange Rate Mechanism (ERM)
(n) Foreign exchange markets
(o) Policies for national and international growth and development

1.2 Module on Quantitative Methods and Statistics for Business

The objective of this module is to provide an understanding of how to calculate and use certain quantitative tools in practical business, industrial and governmental applications. After the methods of making the calculations are understood, computers are useful tools to perform the actual calculations. On completion of this module the individual should understand:

- *how to formulate a problem in mathematical terms, solve the problem and be able to interpret the results*
- *understand and apply statistical techniques, including methods of presentation of data, which are appropriate in a business environment*

1.2.1 Basic arithmetic operations

(a) Arithmetic procedures, powers and roots, and logarithms
(b) Percentages and ratios
(c) Simple and compound interest concepts and nominal and effective interest rates
(d) Discounted cash flows, net present values and internal rates of return measurements
(e) The use of computers for arithmetic operations

1.2.2 The measurement of uncertainty

(a) Probability concepts, addition and multiplication laws, and tree diagrams
(b) Normal distribution concepts
(c) Expectation concepts and their application to decision problems

1.2.3 Statistical presentations as an aid to reporting information, such as histograms, pie charts, ogives, pictograms, frequency polygons and the Lorenz curve

1.2.4 The use of computers to generate statistical presentations of data

1.2.5 Basic concepts of statistics

(a) Populations and samples
(b) Frequency distributions
(c) Measures of central location
(d) Measures of dispersion

1.2.6 Mathematical decision models to represent the relationships among elements relevant to a given situation and to determine the effects in external and internal conditions

1.2.7 Fundamentals of probability
(a) Basic probability concepts
(b) Basic counting rules
(c) Probability rules
(d) Probability distributions

1.2.8 Probability distributions
(a) Binomial distribution
(b) Continuous probability distributions
(c) Normal probability distributions

1.2.9 Sampling and sampling distributions
(a) Sample designs
(b) Sample statistics
(c) The sampling distribution of x
(d) The t-distribution

1.2.10 Statistical estimation
(a) Properties of estimators
(b) Interval estimation
(c) Sample size determination

1.2.11 Hypothesis testing
(a) Basic concepts of hypothesis testing
(b) Hypothesis tests on the mean
(c) Hypothesis tests on the proportion
(d) Interval estimation and hypothesis testing

1.2.12 Regression and correlation
(a) Simple linear regression
(b) Correlation
(c) Testing the model
(d) Regression analysis

1.2.13 Multiple regression, index numbers and time series
(a) Multiple regression
(b) Examination of regression assumptions
(c) Index numbers and time series
(d) Testing models

1.2.14 Statistical decision theory
(a) Probability rules and Bayles' rules
(b) Probability/decision trees

1.2.15 Matrices and linear programming
(a) Matrices
(b) Graphic linear inequalities
(c) The linear programming model
(d) Graphical sensitivity analysis

1.3 Module on general business policies and basic organizational structures

The objective of this module is to introduce the key concepts about different types of organizations and how they function in the practical context of the business environment. On completion of this module individuals should be able to:

- *describe the nature and purpose of the main types of organizations and distinguish between different forms of organizational structures*
- *explain the nature and purpose of the strategies, values and policies which operate in organizations*
- *outline how the formal corporate structure functions*
- *explain how the sociocultural and political environment affects the way in which organizations conduct business*
- *explain the impact of changes in technology on organizations*
- *appreciate the unique challenges faced by small enterprises*

- *understand how not-for-profit organizations function differently from for-profit enterprises.*

1.3.1 General business policies

1.3.2 The structure, functions and objectives of different types of organizations

(a) The nature and functioning of commercial organizations, including sole proprietorships, partnerships and companies (corporations)
(b) Non-commercial organizations, including public sector organizations, clubs and societies
(c) The key personnel and their roles, responsibilities and relationships in organizations and the ways in which these might be integrated
(d) The ways in which organizations may be structured
(e) The functions within organizations
f) The strategy, aims, objectives, values, policies and conflicts which organizations may have, and the ways in which these are developing, in relation to:
    (i) alternative theories of the enterprise
    (ii) Innovation and change, quality and value for money
    (iii) Human resources issues, such as development and working conditions
    (iv) Clients and customers
(g) The different forms which organizations may take in relation to the functions of:
    (i) Administration
    (ii) Finance
    (iii) Personnel

1.3.3 Corporate governance

(a) The aims and objectives of a corporation and the goals of the different interest groups involved
(b) The relationship between shareholders, bondholders, bankers and directors; the potential for conflicts of interests; the effect of the agency theory on concepts of governance
(c) The concept of goal congruence and how it can be achieved
(d) The role of non-executive directors, administrators, management buy-outs and buy-ins, executive share schemes, etc. in corporate operations

1.3.4 Organizations and their socio-cultural and political environment

(a) Demographic structures and product and labor markets
(b) Socio-economic groupings; the distribution of income and wealth
(c) The influence of culture on organizational values, attitudes, behavior and performance
(d) Social responsibility and organizations
(e) Ethical behavior in the enterprise
(f) The role of the state and its impact on organizations
(g) Political parties and pressure groups and their influence on government policy

1.3.5 Organizations and technology: changes in technology and their implications for economic efficiency and growth, methods of production, types of products and organizational structures

1.3.6 Special challenges faced by small enterprises

1.3.7 Not-for-profit organizations and governmental organizations

(a) The different goals of these types of organizations in comparison with for-profit organizations
(b) Evaluation of programmes
(c) Measuring effectiveness and efficiency

1.4 Module on management functions and practices, organizational behaviour, the function of marketing in business, and principles of international business

The objective of this module is to provide candidates with an understanding of the different functions, duties and responsibilities of enterprise executives and managers. Candidates also need to appreciate the importance of ethics in business and how international enterprises operate. On completion of this module individuals should be able to:

- *describe the nature of management and management styles*
- *explain the role of communications in organizations*
- *explain the importance of ethics and integrity in business*
- *evaluate the strategic role of marketing*
- *outline the major financial decisions faced by managements in conducting international business*

1.4.1 The roles, functions and styles of management

(a) The nature, purpose, scope and interrelations of functions carried out by management in relation to resources, costs, operations and performance, namely:
  (i) Setting objectives (long and short-term, strategic and operational, corporate and personal)
  (ii) Planning to meet objectives
  (iii) Implementing objectives
  (iv) Monitoring, evaluating performance and checking performance against objectives and plans

(b) The role of management in relation to an organization's human resources and the relationship of management style to organizational structure

(c) The nature of general management and the changing nature of managerial work

(d) Organizing group activities into distinct work units and establishing relationships between them

(e) Defining the authority, duties and responsibilities of people and work units

(f) Concepts of organizing

(g) Effective communication in organizations, both written and oral

(h) Forms, styles and types of communication in organizations

(i) Negotiation techniques and skills development

(j) Promoting new ideas to others to gain their support

(k) Management integrity

1.4.2 The role of the accountant in the management team in providing information and assisting in the analysis, interpretation and forecasting of business operations

(a) Seeking and clarifying information and views from others, including providing feedback to others

(b) Isolating the key aspects of information and providing summaries for use by others

(c) Presenting information clearly to others, both orally and in writing

(d) Negotiating and agreeing with others

(e) Promoting new ideas to others to gain their support

(f) Giving and receiving constructive criticism to improve future performance

(g) Advising others in one's areas of responsibility and expertise

(h) Encouraging others to offer information, suggestions, etc.

(i) Ethical behaviour among parties

1.4.3 Marketing

(a) The purpose and functions of marketing and the different roles which it plays in the economy

(b) Analysing market needs and identifying marketing opportunities and how to improve the services offered

(c) Obtaining competitive advantages

(d) The impact of the global economy on marketing

1.4.4 Organizations and their international environments

(a) The importance of international trade

(b) The globalization of markets

(c) The development of multinational organizations and transnational corporations

1.4.5 International business

(a) International factors affecting business developments

(b) The role of transnational corporations in the world economy

(c) International financial management decisions
  (i) Alternative methods of financing imports and exports
  (ii) The workings of international money and capital markets and the opportunities that they offer to companies as a source of finance and as a repository for the investment of funds
  (iii) The management of financial resources within a group of

companies, including:

- payments between companies
- cash management
- transfer pricing
- judging the performance of companies within a group
- the financial control of a group of companies

(iv) The appraisal of international capital investments, applying the appropriate techniques, and the consideration of the major issues in the decision-making process, including:

- strategic objectives
- the principle of home country versus host country returns
- the form of foreign investments, including the use of branches versus subsidiaries
- the different methods of financing foreign investments
- the effect of taxation on foreign investment decisions
- repatriation of sales amounts, earnings and charges to foreign operating companies
- political risk analysis

1.5 Module on operations management and strategy

The objective of this module is to develop candidates' awareness that strategic decisions are the result of a trade-off between various competing options considered by an organization's management. The paper explores the decision-making process and the need to weigh the arguments, make choices and realize that, in most circumstances, there is not only one possible solution. On completion of this module the individual should be able to:

- *identify the principles and concepts in the theories and practices of strategic management*
- *assess the impact of environmental forces on organizational strategies and plans*
- *understand the importance of linking information systems development and management to business goals and needs*
- *explain how information systems can be managed and developed*
- *evaluate ways in which change can be managed successfully*
- *plan projects and allocate resources in an optimum way*
- *understand the manager's role and responsibilities in relation to the working environment*
- *assess the importance of human resources development to organizations and identify methods of managing people effectively*

1.5.1 Strategic management and planning

(a) Competitive advantage: its meaning in different national and international markets and industries

(b) Forecasting the future for nations, industries, organizations and the workforce for changes, developments and opportunities

(c) Strategic management and planning: its purpose; the methods used; the effect of the external environment on planning; and understanding and managing risk

1.5.2 Managing operations and services

(a) Determining the work to be undertaken: time and resources needed and their costs; contingency planning

(b) Planning resources allocation

(i) Setting work objectives
(ii) Designing and modifying methods of achieving work objectives
(iii) Optimizing the allocation of available resources
(iv) Formulating and evaluating work plans
(v) Reviews of previous plans and performance
(vi) The importance of time management

(c) Monitoring and maintaining services

(i) Different concepts of quality
(ii) Methods for monitoring and evaluating the implementation of

work plans
(iii) Methods of assessing, analysing and interpreting information on service delivery and other non-financial targets, resource utilization and costs

1.5.3 Human resources management

(a) The purpose and forms of personnel specifications in the recruitment of personnel
(b) Methods of identifying competencies and other attributes required
(c) Specifying personnel requirements
(d) Evaluating and determining the benefits and costs of new or additional personnel
(e) Identifying and determining suitable methods of recruitment
(f) Selection methods and their use
(g) Methods of motivating and supporting personnel
(h) Staff appraisals and the assessment of competence
(i) Warning and dismissing personnel: legal and organizational policies and procedures; the role of internal and external specialists in the process
(j) The role of employee groups in promoting the welfare of personnel
(k) National legislation which affects recruitment, selection, employment and dismissal of personnel
(l) The management of organizational and personal changes
(m) Concepts and principles of human resources development
    (i) The role which individual and team development can play in growth and development
    (ii) The different concepts and models of competence
    (iii) Methods of encouraging and supporting individuals and teams to grow and develop
    (iv) The effect of internal and external factors on development

1.5.4 Management of the working environment

(a) Monitoring, interpreting and applying best practices
(b) National legislation which affects the working environment
(c) The role and purpose of health, safety and security requirements, procedures and guidelines
(d) Roles and responsibilities of persons for managing and improving the working environment

1.5.5 Strategic implications of information technology

(a) Monitoring new developments and good practices in system design, operation and evaluation
(b) Current good accounting practices and the latest developments in accounting systems, including the sources of relevant information
(c) Importance of information technology to the organization
(d) Formulation, organization and control of information strategies and activities
(e) Organizational positioning of the information systems department

2. INFORMATION TECHNOLOGY

2.1 Module on Information Technology

The objective of this module is to ensure that candidates appreciate the contribution of information systems to meeting the goals and needs of business and understand procedures for the development, introduction and use of computer-based systems. The subject matter should be studied from the perspective of their usefulness and application to business situations; the technology should not be seen as an end in itself. Therefore, after the basic techniques of electronic data processing (how to use microcomputers and basic software, such as an operating programme and word processing and spreadsheet programmes) have been mastered, the study of information technology should be integrated as far as possible in the study of subjects in the other modules, and not as a separate stand-alone, self-contained technical skills course. The subject matter described in this module representss the scope of knowledge which should be learned. On completion of this module the individual should be able to:

- *describe different types of information system, with particular reference to financial systems*

- *understand their role in the decision-making process and their relationship to the organization*
- *understand the internal controls in data processing systems*
- *describe and apply the main tools and techniques of systems analysis, design and development*
- *evaluate the performance of information systems*
- *describe systems for the security of data and applications*
- *describe the tools that are available to assist in efficient project management*
- *discuss the procedures to enable systems maintenance to be carried out in an accurate and timely manner*
- *understand the importance of electronic commerce in the current business environment.*

2.1.1 Information technology (IT) concepts for business systems

(a) General system concepts
  (i) Systems theory, system objectives and types of systems
  (ii) System architectures
  (iii) Control and feedback in systems
  (iv) The nature, types and attributes of information
  (v) The role of information within business

(b) Management's use of information
  (i) Decision theory
  (ii) Human information processing
  (iii) Transaction processing in typical business applications
  (iv) The communication of information
  (v) Financial analysis

(c) Hardware
  (i) Components of a computer configuration
  (ii) Processing units
  (iii) Input/output devices, processing speeds, and other related matters
  (iv) Physical storage devices
  (v) Communication devices

(d) System software
  (i) Software configuration
  (ii) Operating systems
  (iii) Financial spreadsheets
  (iv) Word processing
  (v) Data base software
  (vi) Communication systems
  (vii) E-mail software
  (viii) Web browser
  (ix) Basic accounting packages
  (x) Small business systems
  (xi) Business graphics and presentation software
  (xii) Security software, including access control and anti-virus software
  (xiii) Utility software
  (xiv) Programming languages and compilers
  (xv) Programming aids interactive programming software
  (xvi) Library management systems
  (xvii) Data management systems
  (xviii) Statistical analysis and forecasting models
  (xix) Tax preparation software
  (xx) Audit software
  (xxi) Decision support systems

(e) Application software strategy

(f) Data organization and access methods
  (i) Data structures and file organizations
  (ii) Access methods and file maintenance
  (iii) Types of data files
  (iv) Data base management systems
  (v) Document management

(g) Networks and electronic data transfer
  (i) Networks components, configurations and designs
  (ii) Internet, intranet and extranet applications
  (iii) Data communication and transmission devices/software
  (iv) Message and document communication
  (v) Operations management and control

(h) Transaction processing in typical business applications
  (i) General application processing phases
  (ii) Processing modes
  (iii) How different classifications of transactions are processed (e.g. purchases, sales, etc.)
  (iv) Production planning and scheduling, including computer-aided design CAD and CAM
  (v) Treasury and administrative functions
  (vi) General ledger, budgeting and information systems

2.1.2 Internal control in computer-based business systems

(a) Control objectives
  (i) Risks and exposures in computer-based information systems
  (ii) The effect of the computer on processing controls
  (iii) The effect of IT on organizations and controls
  (iv) Responsibility for controls
  (v) Effectiveness and efficiency of operations
  (vi) Reliability of financial reporting
  (vii) Compliance with applicable laws and regulations
  (viii) Cost effectiveness of control procedures
(b) Control framework - the layers of control
(c) The control environment
  (i) Management philosophies and operating styles, organization plans and structures, communication methods and control methods and their effects on systems development
  (ii) System development methodology
  (iii) Control over system selection, acquisition and development
  (iv) Control over system implementation
  (v) Control over system and programme changes
(d) Risk assessment
  (i) Risk exposures
  (ii) Probability and consequences of loss
  (iii) Preventive, detective and corrective strategies
(e) Control activities
  (i) The functions of accounting systems
  (ii) Administrative and accounting control procedures
  (iii) Control design
  (iv) Control over data integrity, privacy and security
  (v) Continuity of processing, disaster recovery planning and control
  (vi) Information system processing and operations
(f) Monitoring compliance with controls - the roles of management users, internal auditors and external auditors

2.1.3 Development standards and practices for business systems

(a) The role of information in organization design and behaviour
  (i) Databases and database management systems
  (ii) System development life cycle
  (iv) Risks: economic, technical, operational and behavioural
  (v) Controls
(b) System analysis and design techniques
  (i) Information requirements elicitation
  (ii) Documentation of analysis and requirements
  (iii) System design
(c) System acquisition, development life cycle phases, tasks and practices, and maintaining control over system development processes
  (i) Investigation and feasibility studies
  (ii) Requirements analysis and initial design
  (iii) Detailed design specification and documentation
  (iv) Hardware evaluation and acquisition
  (v) Software evaluation and acquisition and development
  (vi) Selection of an Internet service provider
  (vii) Hardware contracts and software licenses
  (viii) System installation and implementation
  (ix) Testing (system verification
  (x) User procedures and training
  (xi) Design of user and operator control procedures
  (xii) Testing (system validation)
  (xiii) System conversion and start-up
  (xiv) Post-implementation review

(xv) Maintenance of hardware and software
(xvi) System documentation and operations manuals

2.1.4 The management of IT adoption, implementation and use

(a) Strategic considerations in IT development
  (i) Planning of information systems based on business success factors and criteria
  (ii) Components of long-range plans
  (iii) Integration with business objectives and success factors
  (iv) Participation in strategic planning
(b) Administrative issues
  (i) Job functions, organization and reporting relationships of the IT department
  (ii) Recruiting and developing information systems human resources
(c) Financial control over IT - budgeting and cost control
(d) Security and back-up and recovery - access, availability and continuity
(e) Operational issues
  (i) Developing operational priorities
  (ii) Management of computer operations
  (iii) Management of interorganizational computing
(f) Management of system acquisition, development and implementation
  (i) Development acquisition alternatives
  (ii) Standards and controls applicable to IT development projects
(g) The management of system maintenance and change - standards and controls
(h) The management of end-user computing - the role of information centres

2.1.5 Managing the security of information

(a) Importance of information security
(b) Principles of information security
(c) Best approaches to implementing information security

2.1.6 Artificial intelligence, expert systems, fuzzy logic, etc.

2.1.7 Electronic commerce

(a) The nature of electronic commerce
(b) Intra-company applications
(c) The extranet and its applications for managing supply chains with suppliers, vendors and contractors
(d) The Internet and the worldwide web
(e) The marketing of products and services
(f) External customer transactions, payments and transfers
(g) On-line banking
(h) Financial electronic data interchange (FEDI)
(i) Security matters related to electronic commerce

3. ACCOUNTING AND ACCOUNTING-RELATED KNOWLEDGE

3.1 Module on basic accounting and preparation of financial statements; the accounting profession and International accounting standards

The objective of this module is to equip candidates with the basic understanding of the principles and concepts of accounting as well as their applicability and relevance in the national context and with the ability to apply these principles and concepts in the preparation of financial and related information to meet internal and external obligations. On completion of this module individuals should be able to:

- *outline the role and principles of financial accounting and reporting*
- *record, handle and summarize accounting data*
- *prepare financial statements for both incorporated and non-incorporated enterprises*
- *discuss the accounting treatment of long-life assets, short-life (current) assets, liabilities, goodwill, research and development costs, contingencies, and events after the date of the latest balance sheet (statement of financial position)*
- *appraise critically the role of the International Accounting Standards Committee*

- *understand certain of the International Accounting Standards that have been issued by the International Accounting Standards Committee*
- *interpret and use financial statements after they have been prepared*

3.1.1 Accounting thought and the theoretical background of accounting

(a) The classical notion of stewardship
(b) Double entry book-keeping
(c) The Florentine versus the Venetian approach to reporting
(d) Savary and the Napoleonic Commercial Code
(e) The industrial revolution and the share-issuing company
(f) The arrival of income taxation and the conflict with financial accounting
(g) Schmalenbach and the charts of accounts
(h) The rise of the Group of Companies and the need for consolidated accounts
(i) Accounting variations among countries
    (i) Why practices differ from one country to another even though the same set of basic principles is followed
    (ii) The linkage of tax laws and accounting principles requirements for enterprises in certain countries
    (iii) Differences in the degree of development of the capital markets in countries and their effect on the development and use of generally accepted international principles of accounting
(j) Accounting theory formulation
(k) Conceptual frameworks
(l) Approaches to accounting research
(m) Internationalization of markets and reporting

3.1.2 The accounting profession

(a) The nature of a profession
(b) Italian initiatives in the sixteenth century
(c) Origins of the modern profession in the early nineteenth century
(d) Creation of the Chartered Institutes in Scotland and England
(e) The development of professional bodies in the English-speaking world
(f) Developments in Germany and France in the twentieth century
(g) The international dimension and the "big five" international accountancy firms

3.1.3 Professional ethics

(h) Reputation
(i) Integrity and due care
(j) Competence
(k) Objectivity
(l) Client relations and confidentiality
(m) Reporting breaches of conduct
(n) Unlawful activities
(o) Fees and remuneration
(p) Publicity and advertising
(q) Disciplinary procedures

3.1.4 Institutions

(a) Early sources of regulation
(b) The need for detailed standards
(c) National securities commissions and their effect on professional accounting standards
(d) The development of national standard-setting
(e) International institutions that influence accounting matters
    (i) The International Accounting Standards Committee (IASC)
    (ii) The United Nations Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting (ISAR)

3.1.5 National concepts and principles relating to the preparation and presentation of financial statements

(a) The nature, principles and scope of accounting
(b) The nature, principles and objectives of financial and related records of an organization
(c) The users of financial and related information and their varying needs
(d) The assumptions underlying general purpose financial statements
(e) The qualitative characteristics of financial statements

(f) The elements of financial statements
(g) Criteria for the recognition of the elements of financial statements
(h) Measurement of the elements of financial statements
(i) The concept of capital and capital maintenance
(j) The nature, role and significance of accounting theories and principles
(k) Principles of conceptual frameworks of accounting
(l) Generally accepted accounting standards
(m) The concept and role of the true and fair presentation of financial statements

3.1.6 International accounting standards

(a) The process of developing international accounting standards (IASs)
(b) The scope and application of IASs
(c) The use of IASs by companies, securities regulators and governmental agencies

3.1.7 Recording, handling and summarizing accounting data

(a) Single-entry book-keeping
(b) Double-entry book-keeping and accounting systems
(c) Introduction to manual and electronic book-keeping systems
(d) The classification of expenditures between capital and revenue transactions
(e) The accounting treatment of disclosures of accounting policies (including IAS 1)
(f) The accounting treatment of current assets such as cash and deposits, accounts receivable and prepayments, bad and doubtful accounts, and inventories or stocks (including IASs 2 and 13)
(g) The accounting treatment of long life (term) assets such as tangible (fixed) assets and intangible assets (including goodwill and research and development costs), and the depreciation and amortization of such long life assets (including IASs 4,9, 16, 25, 27, 28 and 31)
(h) Valuation and reporting of investments in debt and equity securities (IAS 25)
(i) The accounting treatment of current and long-term liabilities and provisions (including IAS 13)
(j) The nature, purpose and accounting treatment of shareholders' equity and reserves
(k) Accounting for leases (including IAS 17)
(l) The presentation of financial statements (including IASs 1, 8, 22 and 27)
(m) Post-balance-sheet events and contingencies (including IAS 10)
(n) Confirming and correcting mechanisms in book-keeping and accounting systems, such as control accounts, bank reconciliations and suspense accounts, and the correction of recording errors

3.1.8 The preparation and presentation of financial statements for business enterprises (under conditions of stable prices)

(a) Income statements (including IASs 1, 4, 8, 9, 12, 14, 18, 24 and 33)
(b) Balance sheets (including IASs 1, 2, 13, 14, 16, 17, 24, 25, 27, 28, 31 and 32)
(c) Cash flow statements (IAS 7)
(d) Value-added statements

3.1.9 Basic interpretation and use of financial statements

(a) Contrasting the concepts of funds flow and cash flow
(b) The computation of significant accounting ratios for financial statement analysis purposes
(c) Appraising and communicating the financial position and prospects of a business based on given and prepared statements and ratios
(d) Appraising the validity of available information for user purposes

3.2 Module on advanced financial accounting practices

The objective of this module is ensure that candidates have developed a thorough knowledge and understanding of accounting principles and concepts and can begin to apply this grounding to the situations that they will typically encounter in practical work situations. On completion of this module individuals should be able to:

- *appraise theoretical and regulatory national accounting frameworks and*

international accounting standards

- *prepare financial statements for partnerships, branches, joint ventures, and individual companies*
- *prepare special reports for other organizational entities*
- *analyse and interpret financial and related information and produce reports to meet the needs of internal and external users*

3.2.1 The theoretical accounting framework

(a) The objectives of financial statements
  (i) Qualitative characteristics of useful information
  (ii) The usefulness of financial statements for particular purposes
(b) Accounting conventions
(c) The interpretation and application of theories of accounting in relation to
  (i) The recognition and measurement of income
  (ii) Capital maintenance
  (iii) The valuation of assets and liabilities
(d) The accounting recognition of assets, liabilities and shareholders' equity transactions
(e) Principles of accounting for revenues and costs (including IASs 18, 19 and 23)

3.2.2 The preparation of the different types of financial statements and other special accounting issues

(a) The conversion of an unincorporated enterprise into a corporation
(b) The concepts of pre-incorporation profits, distributable profits and the purchase of an enterprise's own shares
(c) Accounting for joint ventures and associated enterprises (including IASs 24, 28 and 31)
(d) Interim (i.e. other than year-end) financial reporting by enterprises (including IAS 34)
(e) Fair value accounting
(f) Accounting for financial instruments, such as derivatives and other hedging instruments (including IAS 32)
(g) Accounting for environmental liabilities
(h) Accounting for governmental assistance (including IAS 20)

3.2.3 The preparation of financial statements for various types of organizational entities

(a) The preparation of accounts from incomplete information and records
(b) Partnership accounting, including accounting for the admission of partners, changes in capital and profit- and loss-sharing ratios, and the retirement,dissolution and goodwill adjustments for partnership interests
(c) Accounting for proprietorships and other unincorporated enterprises
(d) Accounting for incorporated enterprises, including the preparation of financial and other statements for internal and external purposes
(e) Accounting and reporting for government and other not-for-profit organizations, including "fund" accounting
(f) Accounting for foreign subsidiaries and branches, and accounting for foreign currencies (including IASs 21, 27, 28 and 31)
(g) Accounting for domestic branches
(h) Accounting for enterprises in the extractive industries
(i) Accounting in the construction industry and accounting for construction-type contracts (including IAS 11)
(j) Accounting for banks, insurance companies and other financial institutions (including IAS 30)
(k) Accounting for agricultural farms

3.2.4 Advanced concepts for analyzing and appraising financial and related information

(a) Interpreting and analysing financial statements for indications of business performance
(b) Use of computers for financial analysis
(c) Assessing information weaknesses in financial statements
(d) Business valuation

3.2.5 The communication of information to users: the preparation of reports to meet the needs of internal and external users, supported by appropriate accounts and financial statements which include necessary information and explanations

(a) The results of operations and the state of affairs
(b) Projected results
(c) Accounting policies and practices used
(d) The main assumption on which the reports are based
(e) Significant departures from IASs and national standards, and assumptions and policies
(f) Graphic presentation of financial data for users, including the use of computer-generated graphics

3.3 Module on advanced financial reporting principles

The purpose of this module is to ensure that candidates can exercise judgement and techniques in accounting encountered by professional accountants, and can evaluate and react to current developments or new accounting practices. On completion of this module the individual should be able to:

- *demonstrate the ability to work within the professional and ethical framework of the accounting profession*
- *interpret, apply and appraise critically specified International Accounting Standards and exposure drafts*
- *analyse and interpret financial statements and other related information;*
- *prepare reports of groups of companies*
- *carry out and appraise financial reorganization schemes for given situations*
- *explain the principal aspects of company dissolutions and winding-ups*
- *account for business combinations (acquisitions, disposals and uniting of interests)*

3.3.1 The professional activities of accountants

(a) Critically appraising, evaluating proposed changes and promoting changes in:
  (i) Accounting theories and principles
  (ii) Concepts
  (iii) IASs, Exposure Drafts of IASs and other IASC publications
(b) Monitoring and evaluating
  (i) International issues and case law
  (ii) Ethical issues

3.3.2 Group (consolidated) accounts

(a) The concept of group accounts
(b) General principles for the preparation of group accounts (including IASs 22, 24 and 27)
(c) Inter-company eliminations in the preparation of group accounts
(d) Translation methods for preparing group accounts of entities whose individual accounts are expressed in more than one currency
(e) Other methods of accounting for groups of enterprises
  (i) The equity method of accounting
  (ii) The proportional consolidation method
(f) The use of computers for preparing combining and consolidating groups of accounts

3.3.3 Special issues relating to accounting for reconstructions, uniting of interests and business combinations

(a) Accounting for changes in organizational structures (including IASs 22 and 27):
  (i) Single companies: the principles of acquisitions, financial reorganizations and rationalizations
  (ii) Groups: acquisitions and other changes of parent company interests
(b) The major features of reorganizations, uniting of interests and takeovers, their principal aspects, regulatory and audit consequences in relation to:
  (i) Control of business combinations and the public interests
  (ii) The regulation of takeovers
  (iii) Management responsibilities in takeover situations
  (iv) Minority rights

3.3.4 Advanced analysis and appraisal of financial and related information

(a) Evaluating the internal consistency and validity of the information collected and otherwise produced for accounts

(b) Identifying matters for further interpretation of information produced (e.g. by comparing it to other information such as prior years' data, budgets and other targets, industry norms, and the state of the economy)

(c) Analysing and interpreting accounts and statements (e.g. by ratio analysis) for indications of aspects of business performance (such as value for money, quality, long-term solvency and stability, short-term solvency and liquidity, profitability, efficiency, growth and failure prediction) using, for example:

(i) Inter-temporal analysis
(ii) Intra- and inter-firm comparisons
(iii) Trend analyses

(d) The use of computers for financial analysis purposes

(i) Horizontal analysis
(ii) Vertical analysis
(iii) Ratio analysis

3.3.5 Assessing the impact of price-level changes on financial analyses (including IASs 15 and 29)

3.3.6 Assessing informational weaknesses and limitations of financial statements and analyses

3.3.7 Accounting for the winding up of an enterprise

3.4 Module on Management Accounting - Basic Concepts

The objective of this module is to provide a solid foundation in quantitative techniques and costing methods relevant to business and accounting. On completion of this module the individual should be able to:

- *discuss the role of cost and management accounting and quantitative analysis within the organization*
- *use various classifications to analyse costs within the organization*
- *describe and apply the principles relating to the costing of the different resource inputs into a business*
- *demonstrate output costing methods appropriate to a variety of different businesses*
- *illustrate and evaluate absorption and marginal costing methods and other management cost accounting methods and techniques*

3.4.1 Background information

(a) Importance of knowledge of the business processes and their technological implications

(b) The role of quantitative techniques in problem-solving situations

(c) The value of qualitative and quantitative information in decision-making

(d) The interpretation of operating results and evaluation of the impact of optimum decisions

(e) The benefit of computer software (e.g. spreadsheets and statistics packages) in handling numerical information

(f) The importance of effective communications to users of information

3.4.2 The cost and management accounting framework

(a) Cost and management accounting in comparison with financial accounting: their purposes, the role of cost accounting as part of a management information system, and the need for both financial as well as non-financial information

(b) Cost classification concepts and terminology, such as:

(i) Direct and indirect costs
(ii) Fixed and variable costs
(iii) Period and product costs
(iv) Controllable and uncontrollable costs
(v) Avoidable and unavoidable costs
(vi) "Sunk" costs
(vii) Budgeted, standard and actual costs and their comparisons and analyses

(c) The use of linear, curvilinear and step functions and how their calculations are used to analyse cost behaviour
(d) The concepts of cost units, cost centres and profit centres
(e) The difference between absorption and marginal costing systems

3.4.3 Cost determination: the costing of resource inputs

(a) Materials
  (i) Accounting for stock (inventory) movements
  (ii) The determination of optimum purchase quantities
  (iii) Material pricing issues
  (iv) The identification of accounting for stock losses
(b) Labour
  (i) The difference between direct and indirect labour
  (ii) Types of labour remuneration methods
  (iii) Labour efficiency calculations and interpretations
  (iv) Recording labour costs
  (v) The calculation and interpretation of labour turnover rates
(c) Overheads
  (i) Overhead cost analyses
  (ii) The apportionment and absorption of overhead costs, including reciprocal service situations
  (iii) Accounting for the over- and under-absorption of costs

3.4.4 Costing methods: the costing of resource outputs

(a) Job order, batch and contract costing methods
  (i) Characteristics of each method
  (ii) Accounting for direct and indirect costs, including the treatment of waste, scrap and rectification costs
  (iii) Calculation of the profit on partially completed contracts
(b) The process costing method
  (i) The characteristics of the process costing method
  (ii) Identification and use of appropriate cost units
  (iii) The valuation of process transfers and work-in-process using equivalent units of production and based on FIFO and average costing methods
  (iv) Accounting for normal and abnormal losses and gains, joint and by-products
(c) Operation or service costing
  (i) The scope of operation or service costing
  (ii) The identification of appropriate cost units
  (iii) Considerations relating to the collection, classification and ascertainment of costs

3.4.5 Costing systems: marginal contrasted with absorption costing

(a) The concept of profit contribution
(b) The difference between marginal and absorption costing
(c) Marginal cost accounting: process cost accounting transactions in a marginal costing system
(d) Cost-volume-profit (CVP) analysis: understanding the concepts of break-even and margin of safety

3.4.6 Cost and management accounting methods

(a) Cost control (as distinguished from cost determination); control over waste, scrap, spoilage and defective items
(b) Determining and allocating or apportioning the costs of activities and outputs through the use of appropriate concepts, methods and techniques for:
  (i) Absorption costing
  (ii) Marginal costing
  (iii) Opportunity costing
(c) Activity-based costing; use of cost drivers and activities
(d) Alternative stock (inventory) management systems and models including total quality management (TQM), "just in time" (JIT), economic order quantities (EOQ), etc.
(e) Consideration and application of information required in relation to:
  (i) The costing of products and services;
  (ii) Preparing plans;
  (iii) Monitoring and controlling performance; and
  (iv) Decision-making needs
(f) Cost reduction: techniques such as work study, time and motion studies and value analysis

3.5 Module on Management Accounting - Information for Planning, Decision-making and Control

The objective of this module is ensure that candidates are competent to prepare and analyse accounting data, apply it to a range of planning, control and decision-making situations and adapt it to accommodate change. On completion of this module the individual should be able to:

- *apply management accounting techniques in planning, control and decision-making situations*
- *interpret information available from the use of these techniques*
- *explain current practical methods used in making financial management decisions and the influence of the environment on such decisions*
- *review the objectives of management accounting and its role as part of a business information system*
- *explain the meaning of and the accounting implications of trends in management accounting, such as world class management*
- *explain the nature of information, its sources, and analyses required for the operation of a management accounting system*
- *describe, illustrate and comment on the planning and control uses of standard costing, budgeting and variance analysis*
- *identify relevant costs and appropriate techniques for decision-making and use them in various decision-making situations*
- *identify, discuss and implement a range of product-pricing methods applicable in particular operating situations*
- *discuss the characteristics of strategic management accounting decisions*
- *discuss the performance measures appropriate to different business situations.*

3.5.1 Information for budgeting, planning and control purposes

(a) Objectives and concepts of budgetary systems
  (i) Budgeting as a multi-purpose activity
  (ii) Budgeting and behavioral influences
  (iii) Quantitative aids in budgeting: learning curve theory and application; limiting factors and linear programming
  (iv) Activity-based budgeting
  (v) Control theory and budgeting
  (vi) Uncertainty and budgeting
  (vii) Identification of relevance, strengths and weaknesses of budgeting and budgetary control

(b) Types of budgetary systems: fixed and flexible budgets, zero-based budgets, and incremental, periodic and continuous budgeting

(c) Developing and implementing budgeting systems: functional and subsidiary budgets and master budgets, including cash budgeting

(d) Monitoring and controlling performance; the calculation of variances; the determination of the causes of variances

(e) Short-term versus long-term budgets

(f) Quantitative aids in budgeting: least squares regression; scatter diagram with correlation; forecasting with regression; time series and seasonality concepts for the analysis of time-related data

3.5.2 Standard costing

(a) The uses and limitations of standard costing methods

(b) The determination of standards

(c) Identification and calculation of variances: sales variances (including quantity and mix); cost variances (including mix and yield); absorption and marginal approaches

(d) Identification of significant variances and their interrelationship

(e) The uses of planning and operational variances

(f) Trends, materiality and controllability of variances

(g) Uncertainty and variance analysis

(h) Identification of relevance, strengths and weaknesses of standard costing and variance analysis for performance and control

3.5.3 Business planning

(a) Proposing, evaluating and implementing ways to meet short- and medium-term financial objectives, such as budgeting, monitoring and controlling cash flow, pricing, raising finance and repaying debt

(b) The purpose and benefits of setting short-term objectives consistent with long-term strategies

(c) Seeking, clarifying and confirming information relevant to the determination of business objectives, such as information on current business position and past performance by using ratios and other analyses, and information on planned changes to systems and procedures

(d) Developing and analysing business plans to meet agreed objectives, including risk assessment of plans and all aspects of the business that they will influence, and analyses to include measures of value, profit optimization and utility

(e) Long-term financial planning, including:

(i) The issues to be considered when deciding whether to expand through internal growth or through an acquisition

(ii) Strategies a company might use in order to expand or maintain its current market position

(iii) The techniques for valuing individual shares and other securities and for valuing a business, and the application of these techniques in merger and acquisition situations

(iv) The arguments for and against mergers and acquisitions

(v) Methods of financing an acquisition

(vi) Appropriate merger and acquisition strategies and tactics

(vii) Tactics to follow when defending against a takeover bid

(viii) Planning for post-merger success and post-merger audits

(ix) Identifying schemes for financial restructuring and the issues involved in the decision process; methods of restructuring; buy-outs; going private; share repurchases; rescheduling debts; and joint ventures

3.5.4 The design of management accounting systems

(a) Developing and implementing appropriate systems

(i) Identification of cost units

(ii) Establishing cost, profit and responsibility centres

(iii) Determining methods for recording relevant information

(iv) The sources of information for recording and processing

(v) Computer-based information storage and processing

(vi) Analysis of output information and its dissemination to relevant individuals and departments

(b) Consideration and application of information requirements in relation to:

(i) The costing and processing of products and services

(ii) Preparing operating plans

(iii) Monitoring and controlling performance

(iv) Decision-making considerations

(c) Considerations in negotiating and agreeing information requirements

(i) The influence of size and the type of enterprise entity

(ii) The nature of activities and output of each entity

(iii) The long-term or short-term nature of decisions

(iv) Management structures and styles

(v) Conditions of uncertainty and risk

(vi) Qualitative and quantitative nature of the information requirements

(vii) Frequency, timing, format and degree of accuracy required

3.5.5 Evaluating the impact of changes in business structures, functions and performance measures on the applicability and appropriateness of management accounting techniques and methods

3.5.6 Performance measurement for planning and control

(a) Measurement of activity, productivity, profitability, quality and service

(b) The relationship of measurements to the type of entity (e.g. manufacturing or service, profit or non-profit, centralized or decentralized entity)

(c) Ranges of measures: monetary and non-monetary; the use of percentages, ratios and indices

(d) The use of indices to allow for price and performance changes through time

(e) Identification of areas of concern from the information produced

(f) Relationship between business performance and managerial performance

(g) Assessing management performance by reference to comparable internal and external information

3.5.7 Other information for decision-making purposes

(a) The pricing of goods and services
  (i) Target and minimum pricing
  (ii) Price/demand relationships
  (iii) The pricing of special orders and short-life products
  (iv) Transfer pricing between divisions in a group
  (v) Pricing in service industries
  (vi) Pricing internal services

(b) Identification and application of relevant costs and appropriate techniques
  (i) Relevant costs, such as fixed or variable, direct or indirect, avoidable or unavoidable, and opportunity or sunk costs
  (ii) Appropriate techniques, such as CVP analysis, the use of limiting factors, and the recognition of risks and uncertainties

(c) Use of relevant information for:
  (i) Application and interpretation of quantitative techniques for decision-making purposes
  (ii) Adoption of new products
  (iii) Product mix choices
  (iv) Discontinuance of products
  (v) Make or buy decisions
  (vi) Decisions to sell or to further process products
  (vii) Decisions to shutdown or temporarily close selected operations
  (viii) The use of indexing of costs and revenues data
  (ix) The use of discounted cash flow techniques in longer-term decision-making situations

3.5.8 Non-financial performance indicators such as productivity per employee or per service unit

3.5.9 The non-financial objectives of enterprises such as environmental and social objectives

3.6 Module on Taxation

The objective of this module is to provide a reliable foundation in the core areas of tax that are likely to be encountered during the initial phase of a candidate's tax experience in professional practice and to equip him/her to solve unstructured problems in the future. On completion of this module the individual should be able to:

- *discuss the operation of his/her national taxation system*
- *compute the income tax liabilities arising from individual and unincorporated businesses*
- *compute corporation tax liabilities for companies*
- *display an awareness of the impact of all major taxes on the transactions of individuals, partnerships and corporations*
- *apply that knowledge to practical situations involving computation, explanation, discussion and advice*
- *appreciate the importance of taxation in personal and corporate financial planning and decision-making*
- *demonstrate an understanding of the national tax regulations associated with the provision of suitable investment advice to individuals*
- *identify opportunities to minimize potential tax liabilities by making full use of available options, reliefs and other forms of available allowances*

3.6.1 Overview of the national tax system

(a) Structure and procedures of the national, regional and local taxation authorities
(b) Duties and powers of taxation authorities and the nation's legal system
(c) Assessments, due dates, interest on overdue amounts, and refunds of amounts paid
(d) Sources of tax information: statutes, case laws, regulations and other sources
(e) Resolution of tax disputes

3.6.2 The income taxation of employees and unincorporated businesses

(a) The general basis for assessing taxes
(b) Calculating tax liabilities
(c) Minimizing and deferring tax liabilities by identifying relevant exemptions, reliefs and allowances

3.6.3 Taxation of incorporated businesses

(a) The principles and scope of corporation taxation laws
(b) Calculating tax liabilities
(c) Special regulations applicable to groups of companies
(d) Minimizing and deferring tax liabilities
(e) Purchases and sales of a company's own shares
(f) Tax effects of the acquisition and sales of companies owned

3.6.4 Value-added tax schemes

3.6.5 Capital gains taxes

3.6.6 Inheritance taxes

3.6.7 Local direct taxes, including real estate and other property taxes

3.6.8 Other taxes such as excise taxes and road taxes

3.6.9 National insurance schemes

3.6.10 Social security schemes

3.6.11 Trusts

3.6.12 Tax planning and the application of appropriate tax planning measures

3.6.13 The use of computers for tax planning and for the preparation of tax returns

3.6.14 Ethical considerations - tax avoidance and the minimization of tax liabilities versus tax evasion

3.6.15 Non-domestic (foreign) activities giving rise to taxation liabilities

(a) Definitions of residence and domicile
(b) The national taxation of income earned in the country and gains of non-domiciled individuals
(c) The taxation of national residents
(d) The national taxation of overseas gains and income attributable to corporations and to individuals
(e) The effect of national tax treaties with other countries on tax liabilities
(f) The effect of business structures (branches, subsidiaries) on tax liabilities
(g) The effect of transfer pricing on overseas and national tax liabilities
(h) Other tax planning considerations

3.7 Module on business and commercial law

The objective of this module is to provide an awareness of the nation's overall legal framework within which a professional accountant operates. On completion of this module individuals should be able to:

- identify the main sources of law in the nation
- explain how laws are administered and how legal rules emerge in the legal system
- describe the various statutes which affect the professional accountant's work
- explain the general principles of the nation's law on contracts
- identify the major features of contracts for the sale of goods
- discuss the major legislative and common or civil law principles which govern employment relationships
- appreciate the formation of a company and distinguish between various types of companies
- describe the financing of a company, including both share and loan capital
- explain the management and administration of a company with respect to

directors, company officers, auditors and company meetings

- identify the important external regulatory bodies in the country which directly relate to company operations

3.7.1 General legal concepts of enforceable rights and obligations

3.7.2 Types of laws

(a) Constitutional laws
(b) Administrative laws and regulations
(c) Criminal laws
(d) Civil laws
(e) Fiscal laws
(f) Mercantile (commercial laws) including laws of credit
(g) Laws of association
(h) Employment and social laws
(i) Insolvency and bankruptcy laws

3.7.3 The national legal system

(a) The system of courts and the administration of justice
(b) Case laws and/or legislation and regulations affecting enterprises
(c) Precedents and statutory interpretations
(d) Disputes and the use of experts

3.7.4. The nature, purpose, scope and key principles of national legislation, directives and case law

3.7.5 General principles of the law of contracts

(a) Formation of a contract
(b) Contract contents and terms, including exclusion clauses
(c) Discharge of a contract
(d) Remedies for failure to perform contract terms

3.7.6 Contracts for the sale of goods

(a) Implied and specified terms
(b) Transfer of the possession of property
(c) Performance
(d) Remedies

3.7.7. Employment contracts

(a) Contracts of service and for services
(b) Unfair and wrongful dismissal
(c) Redundancies
(d) Remedies of employees

3.7.8 The nature of a limited liability company

(a) The difference between a limited liability company and a partnership
(b) The advantages and consequences of forming a limited liability company

3.7.9 Company law

(a) The formation of a company and the nature of its constitution
(b) The formalities and the role of the Government's Registrar of Companies
(c) The registration of shares, directors and directors' shareholdings
(d) The contractual capacity of a company
(e) Statutory books, records and returns required for a company

3.7.10 Capital and the financing of companies

(a) Share capital
    (i) The issuance and transfer of shares
    (ii) Purchase and redemption of shares
    (iii) Dividends
    (iv) Charges against the capital of a company
(b) Loan capital
    (i) Borrowing powers
    (ii) Types of debentures and their creation
    (iii) Company charges for loan capital
    (iv) Registration of loans
    (v) Remedies of loan creditors

3.7.11 The management and administration of companies

(a) Company directors
    (i) Appointment and termination of office

(ii) Duties and powers
(iii) Contractual capacity of directors
(iv) Self-dealing by directors
(v) Shareholder remedies

(b) Company officers: titles and responsibilities
(c) Differences between officers' and directors' duties and responsibilities
(d) The company secretary: appointment, role and duties
(e) Shareholders: majority control and the rights of minorities
(f) External auditors
(i) The appointment and re-appointment of auditors
(ii) Removal, resignation and replacement of auditors
(iii) Duties and responsibilities
(g) Formal company meetings
(h) National regulatory bodies of companies:
(i) Agencies applicable to all companies
(ii) Agencies applicable to publicly held companies, including securities and exchanges organizations

3.7.12. Laws of associations such as clubs and partnerships to carry out certain activities; rights and duties of members and partners of such associations; rights of third parties; rules governing financial statements and prospectuses

3.7.13 Laws of insolvency; procedures for filing for insolvency under relevant laws; rights of creditors and other interested parties

3.8 Module on auditing fundamentals

The objective of this module is to provide candidates with a basic understanding of the nature and objectives of an audit and general auditing practice. On completion of this module individuals should be able to:

- *explain the nature, purpose and scope of an audit of financial statements*
- *consider compliance with national laws and regulations in an audit*
- *appraise theoretical and regulatory national auditing frameworks and international auditing standards*
- *consider the ethical nature of an audit*
- *describe the audit procedures undertaken in the planning of an audit*
- *explain the methods for collecting and evaluating audit evidence*
- *discuss the nature of internal controls, the procedures required to evaluate control risk and the use of tests of control*
- *explain the nature of audit sampling*
- *perform substantive testing on individual balance sheet classifications of items*
- *understand other basic phases in performing audits*

3.8.1 The nature, purpose and scope of an audit

(a) The historical development of auditing
(b) The ethical base of auditing
(c) The notion of accountability, stewardship and agency
(d) The social concept of an audit and its changing role

3.8.2 The regulatory framework of auditing and international standards on auditing

(a) Auditing standards: their nature, purpose, scope and development
(b) National bodies that set auditing standards and guidelines - their role and responsibilities
(c) National legislation that affects auditors - the role of government in relation to auditors and the auditors' responsibility to consider national laws and regulations in an audit of financial statements
(d) National supervision and monitoring of auditors
(e) The role of the International Federation of Accountants (IFAC)
(f) International Standards on Auditing (ISAs): their nature, purpose, scope and development
(g) The conceptual framework of ISAs
(h) The relationship between ISAs and national standards on auditing
(i) The role of parties in relation to auditing, including the regulatory and enforcement authority, management, internal auditors and the audit committee of the company's board of directors

3.8.3 The fundamental principles and concepts of auditing

(a) Appointment of auditors
(b) Management's role and responsibilities in an audit and the audit engagement letter
(c) Auditor independence, objectivity and integrity
(d) Confidentiality
(e) Audit evidence and documentation
(f) Due care, skill and competence
(g) Audit risk
(h) Materiality and judgement
(i) Expression of an audit opinion
(j) Audit reporting as a communication medium
(k) Audit planning and supervision
(l) Quality control and review

3.8.4 The framework of auditing

(a) The application of fundamental auditing principles and concepts
(b) The requirements of national companies' acts on auditing
(c) The application of national generally accepted auditing standards
(d) The application of ISAs and International Auditing Practice Statements
(e) National ethical codes of conduct for professional auditors and the IFAC International Code of Ethics
(f) The auditors' and management's responsibilities for the detection and reporting of fraud, errors and illegal acts
(g) The ethical considerations relating to the engagement and continuance of audit clients
(h) Communications with predecessor auditors
(i) Withdrawal from professional engagements and factors affecting such decisions
(j) Preparing, issuing and revising audit engagement letters

3.8.5 Audit evaluation and planning

(a) Establishing the objectives, scope and critical aspects of an audit
(b) The importance of knowledge of the business and other operations of the entity being audited
(c) Developing the audit plan to meet those objectives
(d) Performing, delegating, supervising and reviewing the audit work performed
(e) The identification of sources of audit evidence and the relationship of audit evidence to critical audit objectives
(f) Use of management estimates in performing an audit
(g) Establishing materiality levels, statistical sampling and sampling sizes
(h) Determining the areas of audit risks and the consideration of inherent risks, control risks and detection risks
(i) Analysing the consistency of financial and related information by substantive analysis, including analytical procedures
(j) Designing, documenting and re-evaluating the audit plan
(k) Evaluating the management information systems

3.8.6 Evidence collection and analysis

(a) Collecting evidence using a variety of sources and methods including: inspection of records, documents and tangible assets; observations of processes or procedures performed by others; oral and written inquires to independent parties; computations, ratios, trends and other analytical procedures
(b) Selecting audit procedures appropriate to the industry, business and core processes
(c) Identifying and applying sampling techniques
(d) Evaluating the evidence collected, both oral and written, for reliability and sufficiency
(e) Recognizing mutual cooperation; similarities and iifferences in the work of the internal and external auditors
(f) Recognizing the needs and limitations of the use of independent experts

3.8.7 The performance of an audit

(a) Determining and documenting the internal controls, including methods of preparing audit working papers
(b) Designing the audit programme

(c) Assessing internal controls
(d) Performing tests of the systems controls
(e) Evaluating the results of tests and the re-evaluation of inherent and control risks
(f) Applying substantive analysis, substantive sampling and the evaluation of test results
(g) Determining and analysing the inter-relationship of tests
(h) Altering (modifying) tests in the light of test results
(i) Comparing test results with evidence from other tests, critical audit objectives, risk evaluation and materiality levels
(j) Responding to potential weaknesses in the system and areas of concern evidenced by substantive tests
(k) Introduction to the utilization of computer assisted audit techniques and testing management information system controls
(l) Consideration of relevant legislation on the performance of an audit
(m) Performing substantive procedures in relation to balance sheet items
(n) Evaluating the sufficiency, relevance and reliability of evidence and amending the audit plan
(o) Evaluating the quality of the audit

3.9 Module on auditing: advanced concepts

The objective of this module is ensure that candidates have developed a thorough knowledge and understanding of auditing principles and concepts and can begin to apply this grounding to the situations that they will typically encounter in practical work situations. On completion of this module individuals should be able to:

- *review events subsequent to the date of the balance sheet for their effect on the financial statements; review the condition of the enterprise as a going concern; review management representations; and review the truth or fairness of the information which the financial statements purport to represent*
- *explain the significance of communication to management and directors*
- *prepare and understand various forms of audit reports and their significance*
- *perform auditing procedures on computerized business systems*
- *discuss and implement advanced and specialized auditing practices and procedures*
- *understand auditors' professional liabilities*
- *explain the function of internal auditing.*

3.9.1. The audit reporting framework

(a) Reviewing events that are subsequent to the date of the balance sheet
(b) Evaluating going-concern risks, management representations and the truth and fairness or fair presentation (or alternative reporting requirements) of financial statements
(c) Identifying and making recommendations on compliance with enterprise policies, on appropriate actions on weaknesses and on the efficiency of operations found during the audit
(d) Formulating an audit opinion
(e) Reporting to management and to the board of directors, or to the board's audit committee
(f) Preparing formal audit reports, including the different types of reports
(g) Evaluating and determining the circumstances in which it is necessary to modify audit reports
(h) Determining the potential effects of different types of audit reports

3.9.2 Communications with boards of directors and management concerning internal control weaknesses detected in audits

3.9.3 Evaluation of computer-based business systems

(a) Legal, ethical, auditing and information system control standards
    (i) Legal and ethical requirements
    (ii) Auditing standards relevant to information technology (IT)
    (iii) Computer control guidelines
(b) Evaluation objectives
    (i) Efficiency, effectiveness and economy of IT use
    (ii) Compliance with policies, statutes and regulations
    (iii) Evaluation of internal control in computer-based systems
    (iv) Fairness of financial statement representations and the

accuracy and completeness of accounting records

(c) Evaluation methods and techniques
  (i) Planning, scheduling and staffing
  (ii) Obtaining an understanding of systems in the business context
  (iii) Documenting systems and elements of control structure
  (iv) Tests of features, controls, transactions and balances
  (v) Supervision, review and quality assurance

(d) Communicating the results of evaluations
  (i) Types of reports
  (ii) Levels of assurance
  (iii) Importance of communication skills

(e) Following up - frequency, timing and reporting

(f) Specific types of evaluations
  (i) System acquisition and development
  (ii) System implementation
  (iii) System maintenance and programme changes
  (iv) IT asset safeguarding
  (v) Data integrity, privacy and security
  (vi) Continuity of processing and disaster recovery planning
  (vii) System processing operations and related activities
  (viii) Application processing

(g) Computer-assisted audit techniques (CAATs)
  (i) Approaches
  (ii) Professional standards
  (iii) Feasibility considerations
  (iv) Categories, definition and design of CAATs
  (v) Execution and control of CAATs

3.9.4 Auditors' risks of professional liabilities

(a) Significance of the problem
(b) Functions and duties of independent auditors for serving the public interest - clients and third parties
(c) Auditors' liabilities to clients and to third parties for their actions
(d) Liability laws in civil law countries
(e) Liability laws in common law countries
(f) Fraud versus negligence
(g) Professional liability insurance
(h) What auditors can and should do to minimize their risks

3.9.5 Internal auditing - its objectives and functions

3.9.6 Organizing and planning complex audit situations, including group audits and joint audits

(a) Using the work of internal auditors, other external auditors and independent experts
(b) Special purpose audit engagements, including investigations, and related service engagements
(c) The performance of attestation services
(d) Auditing for compliance with laws and regulations
(e) Reviewing financial statements for compliance with International Accounting Standards
(f) Monitoring and evaluating important theories, developments, issues and controversies in international accounting and auditing standards, international case law and audit regulations and their implications for the auditing profession
(g) Monitoring the impact of information systems development on the audit process, including the impact of computers on the auditing process
(h) Audits of banks, insurance companies and other financial institutions (including International Accounting Standard 30)
(i) Audits of small businesses
(j) Auditing in governmental and not-for-profit organizations
(k) Non-financial auditing - types, objectives and methods; management auditing and operational auditing by professional accountants

3.10 Module on business finance and financial management

The objective of this module is to ensure that candidates understand the financial management methods used for analysing the benefits of various sources of finance and capital investment opportunities. On completion of this module the individual should be able to:

- *appreciate the nature and scope of working capital management*
- *identify appropriate sources of finance for particular situations and assess the impact of each upon the capital structure of a particular enterprise*
- *appraise capital investments through the use of appropriate methods and techniques, and make allowances for the effects of taxes, inflation, risks, and uncertainty*
- *understand the concepts behind available theoretical financial models and assess the relevance of developments in financial management theory to an enterprise*
- *select the techniques most appropriate to optimize the employment of resources including the most effective method of financing*
- *understand the workings of the national and international financial systems and evaluate alternative sources of finance*
- *understand the treasury management function, in particular the working capital aspects and international considerations*
- *make reasoned decisions in the area of financial management and be able to adapt to changes in factors affecting those decisions*

3.10.1 The financial objectives of different types of organizations

(a) The nature, purpose and scope of financial management
(b) The relationship between financial management, management accounting and financial accounting
(c) The relationship of financial objectives to organizational strategy and to other organizational objectives
(d) The nature, scope and form (long-term and short-term) of financial objectives of different types of organizations, including not-for-profit organizations
(e) Problems faced by small enterprises in obtaining financing
(f) The roles, responsibilities and relationships of key personnel involved in and with organizations (shareholders, lenders, managers, employees, customers, suppliers and government)

3.10.2. The management of working capital

(a) The nature and scope of working capital management
(b) The importance of effective working capital management to corporate survival
(c) Cash: the selection of appropriate cash balances and managing cash surplus and deficits; the nature and functions of the short-term money market
(d) The management of debtors (including those overseas): credit evaluation; terms of credit; cash discounts; debt collection techniques; credit management monitoring and evaluation; factoring; and invoice discounting
(e) Creditors: the advantages and disadvantages of alternative methods of paying suppliers (including those overseas); the dangers of trading on credit

3.10.3 The framework of financial management

(a) The commercial and financial environment in which organizations operate (the nature and function of the money and capital markets including banks and other financial intermediaries, and various national stock exchanges and the over-the-counter markets)
(b) The application of macroeconomic theory as a basis for understanding the key economic variables affecting the business environment
(c) Fiscal policies: their nature and the effectiveness of fiscal policy
(d) Money and interest rates, the role of money in the economy, and the supply and demand for money
(e) Monetary policies: attitudes to monetary policies and their problems
(f) Supply-side policies and problems and policies to improve supply-side policies
(g) Policies towards monopolies and oligopolies, privatization and deregulation
(h) Environmental ("green") policies and their implications for the management of the economy and the firm

(i) The significance of corporate securities (share, capital, debt and preference shares) to commercial organizations and the markets in which they operate, and the influence of markets on organizations
(j) The "efficient markets" hypothesis and its relevance to decision-making and to financial management practice

3.10.4 Special problems of financial management in the public sector

3.10.5 The sources of finance

(a) The nature and importance of internally generated funds
(b) The cost of capital, including the calculation of effective interest rates
(c) Capital markets, including the types of share capital, new issues, rights issues, loan capital, convertible securities and warrants
(d) The impact of capital market derivatives
(e) The determination of equity prices
(f) The effect of dividend policies on financial needs and the formulation of dividend policies
(g) Bank finance: the various forms of short-, medium- and long-term finance that are available, including leasing arrangements
(h) Trade credit
(i) Government sources: grants, local, regional and national aid schemes, tax incentives, etc.
(j) Venture capital and financial sources particularly suited to the small enterprise
(k) International money and capital markets, including banking and the financing of foreign trade
(l) The role of Islamic banking in the financing of enterprises
(m) Determining the requirements for financing (how much, for how long, and for what purpose) in relation to an enterprise's operational and strategic objectives; the importance of the choice of capital structure to an organization
(n) Financial and actuarial mathematics
(o) Calculating financial gearing and other key financial ratios and analysing their significance to the organization
(p) Identifying and evaluating appropriate sources of finance taking into account such factors as:
    (i) The cost of finance including its servicing
    (ii) The timing of cash payments
    (iii) The effect of gearing and other ratios
    (iv) The effect on the company's existing investors
(q) Negotiating term loans with banks and other financial institutions
(r) Micro credit programmes to finance development in rural areas

3.10.6 Capital expenditures and investments

(a) How to identify potential investment opportunities
(b) Appraising capital investments for commercial and non-commercial organizations through the use of appropriate methods and techniques, including:
    (i) Return on capital employed
    (ii) Payback
    (iii) Discounting based methods, including the importance of the cost of capital to investment appraisal and shareholder value
    (iv) Internal rates of return
    (v) Net present values
    (vi) Capital rationing
    (vii) Lease or buy decisions
(c) Managing investment portfolios
(d) The effects of taxation and inflation on investment decisions and the handling of risks and uncertainties, for example through the use of probabilities, sensitivity analysis and simulations

3.10.7 Long-term financial planning

(a) The relationship of investment decisions to long-term financial planning
(b) Portfolio theory and its relevance to decision-making and financial management practice
(c) The capital asset pricing model and its uses in financial management
(d) The significance of the dividend-based model and the capital asset pricing model in calculating the cost of capital

(e) The cost of various forms of debt
(f) The use of the "weighted average cost of capital" approach
(g) The "adjusted present value" approach and its application in decision-making
(h) Taxation and dividends; the impact of dividends on share prices

3.10.8 Treasury management

(a) Optimizing the flow of financial assets for an organization or an individual
(b) Risk management and cost saving within the organization by use of:
    (i) Options, including caps, floors and collars
    (ii) Futures
    (iii) Swaps
(c) The scope and benefits of financial engineering
(d) Foreign exchange markets and hedging against foreign exchange risks
(e) The use of financial derivatives, including the Black-Scholes option pricing model